R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

Applicants thank Examiner Kostak for the indication of allowable matter in claims 4-7, 9, 13-16 and 18.

SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments may be found in the specification, for example, on page 11 line 19-page 12 line 5, page 24 line 18-page 25 line 7, FIGS. 4A, 4B and 11, and claims 13 and 14, as originally filed. Thus, no new matter has been added.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

The rejection of claims 1, 10 and 19 under 35 U.S.C. §102(b) as being anticipated by Takayama et al., EP 0 913 924 (hereafter Takayama) have been obviated in part, is respectfully traversed in part, and should be withdrawn.

Takayama concerns a tuner for receiving digital television signals (Title).

Claim 10 provides a step for (A) generating an intermediate frequency signal having a carrier signal at a first intermediate frequency in response to a first frequency conversion applied to a radio-frequency signal (modulated by an analog television signal). In contrast, the title, abstract and paragraph

0019 of Takayama appear to contemplate that a signal receiver 2 of Takayama receives an RF signal modulated by a **digital** television signal. Takayama appears to be silent regarding an RF signal modulated by an **analog** television signal. Therefore, Takayama does not appear to disclose or suggest a step for (A) generating an intermediate frequency signal having a carrier signal at a first intermediate frequency in response to a first frequency conversion applied to a radio-frequency signal modulated by an analog television signal as presently claimed.

Claim 10 further provides a step for (B) generating a digital intermediate signal having the carrier signal at a second intermediate frequency in response to a digitization of the intermediate frequency signal, wherein the second intermediate frequency is above a baseband frequency. In contrast, Takayama states in paragraph 0022 (column 4, lines 42-46):

> ... an **A/D (Analog/Digital) converter** circuit 4 for **converting the second intermediate frequency signal** whose center frequency is about 4Mz [sic], which is sent from the intermediate frequency circuit 3, **to a baseband signal** represented in the form of parallel 8 bits ... (Emphasis added)

Takayama appears to contemplate that the A/D converter circuit 4 generates a baseband frequency signal. Therefore, Takayama does not appear to disclose or suggest a step for (B) generating a digital intermediate signal having the carrier signal at a second intermediate frequency in response to a digitization of the

intermediate frequency signal, **wherein the second intermediate frequency is above a baseband frequency** as presently claimed.

Claim 10 further provides a step for (C) generating a digital television signal representative of the analog television signal (modulating the radio-frequency signal) at the baseband frequency in response to demodulating said digital intermediate signal. In contrast, Takayama appears to be silent regarding a video signal generated by a baseband processing circuit 9 **representing an analog television signal** used to modulate the RF signal received by the signal receiver circuit 2 (asserted similar to the claimed generating an intermediate signal step). Instead, Takayama appears to contemplate that the "digital television signal" is always in digital form. Therefore, Takayama does not appear to disclose or suggest a step for (C) generating a digital television signal representative of the analog television signal at the baseband frequency in response to demodulating said digital intermediate signal as presently claimed. Claims 1 and 19 provide language similar to claim 10. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 2, 3, 11 and 12 under 35 U.S.C. §103(a) as being unpatentable over Takayama in view of Mathe '430

has been obviated in part, is respectfully traversed in part and should be withdrawn.

The rejection of claims 8 and 17 under 35 U.S.C. §103 as being unpatentable over Takayama in view of Taga et al. '268 (hereafter Taga) is respectfully traversed and should be withdrawn.

Takayama concerns a tuner for receiving digital television signals (Title). Mathe concerns a noise cancellation circuit in a quadrature downcoverter (Title). Taga concerns an AFC circuit for QPSK demodulation (Title).

The Office Action has not provided any evidence of motivation to combine Takayama with either Mathe or Taga. In particular, (i) the first asserted motivation on page 3 of the Office Action "for additionally providing noise reduction" and (ii) the second asserted motivation on page 4 of the Office Action "for the benefit of maintaining proper phase and frequency" are not credited to any reference or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Therefore, the Examiner is respectfully requested to either (i) clearly identify the source of the alleged motivation and provide evidence if generally available knowledge or (ii) withdraw the rejection.

Claim 11 provides a step for generating a digital baseband signal in response to a multiplication of the digital intermediate signal by a single sinusoid signal. In contrast, FIG. 5 of Mathe appears to suggest that generation of a baseband signal

is performed by a quadrature multiplication using two sinusoid signals. Takayama does not appear to cure the deficiency of Mathe. Therefore, Takayama and Mathe, alone or in combination, do not appear to teach or suggest a step for generating a digital baseband signal in response to a multiplication of the digital intermediate signal by a single sinusoid signal as presently claimed.

Claim 11 further provides a step for generating the digital television signal in response to a decimation of the digital baseband signal. Despite the assertion on page 3 of the Office Action, the N:1 Decimators 614a and 614b of Mathe do not appear to **generate a digital television signal**. In particular, FIG. 6 of Mathe suggests that the outputs of the N:1 Decimators 614a and 614b are added to **generate IF samples**. One of ordinary skill in the art would appear to understand IF samples to be different than a digital television signal generated from a digital baseband signal. Therefore, Takayama and Mathe, alone or in combination, do not appear to teach or suggest a step for generating the digital television signal in response to a decimation of the digital baseband signal as presently claimed. Claim 2 provides language similar to claim 11. As such, claims 2 and 11 are fully patentable over the cited references and the rejection should be withdrawn.

Claims 3 and 12 depend indirectly from independent claims 1 and 10, which are now believed to be allowable. Since claims 3

and 12 contain all of the limitations of claims 1 and 10, claims 3 and 12 are fully patentable over the cited references and the rejection should be withdrawn.

Claim 17 provides a step for generating an error signal in response to a detection of both a phase error and a frequency error of the digital intermediate signal relative to a sinusoid signal. Despite the assertion on page 3 of the Office Action, Taga appears to contemplate a detector/comparison stage 12 performing only a phase error detection, not both a phase error detection **AND** a frequency error detection. Likewise a ΔF Detector 33 of Taga only appears to detect a frequency error, not both a phase error **AND** a frequency error. Therefore, Takayama and Taga, alone or in combination, do not appear to teach or suggest a step for generating an error signal in response to a detection of both a phase error and a frequency error of the digital intermediate signal relative to a sinusoid signal as presently claimed.

Claim 17 further provides a step for generating a single sinusoid signal in response to a table look-up conversion of a sawtooth signal. Despite the assertion on page 4 of the Office Action, (i) the ROM 71 of Taga appears to be involved in generating a frequency error signal, not a sinusoid signal. Furthermore, FIG. 3 of Taga appears to suggest that the error signals from the phase comparator 12 and the ΔF Detector 33 ultimately generate four sinusoidal signals (SIN, COS 0° and 90°). Therefore, the Office

Action has failed to establish that Takayama and Taga, alone or in combination, teach or suggest all of the claimed limitations. Claim 8 provides language similar to claim 17. As such, the rejection of claims 8 and 17 should be withdrawn.

Dependent claims 4-7, 9, 13-16, 18 and 20-23 depend either directly or indirectly from independent claims 1 and 10, which are now believed to be allowable. Since claims 4-7, 9, 13-16, 18 and 20-23 contain all of the limitations of the independent claims, the claimed invention is fully patentable over the cited references.

Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit Account No. 12-2252.

Respectfully submitted,

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